

February 2012



Focus Product Selector Guide

Featuring:

- 8-, 16- and 32-bit PIC® Microcontrollers
- dsPIC® Digital Signal Controllers
- Analog & Interface Products
- EEPROM, SRAM and Flash Memory
- Wireless and RF Products

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8-bit PIC® Microcontrollers

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www.microchip.com/16bit

32-bit PIC® Microcontrollers

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dsPIC® Digital Signal Controllers

The dsPIC family of Digital Signal Controllers (DSCs) features a fully implemented digital signal processor (DSP) engine, with up to 70 MIPS performance, C compiler friendly design and a familiar microcontroller architecture and design environment. The dsPIC 16-bit Flash DSCs provide the industry's highest performance, and have features supporting motor control, digital power conversion, speech and audio, intelligent sensing and general purpose embedded control applications. For more information visit: www.microchip.com/dsPIC

Analog and Interface Products

Microchip's integrated analog technology, peripherals and features are engineered to meet today's demanding design

requirements. Our broad spectrum of analog products addresses thermal management, power management, battery management, mixed-signal, linear, interface and safety & security solutions. Our broad portfolio of stand-alone analog and interface devices offers highly integrated solutions that combine various analog functions in space-saving packages and support a variety of bus interfaces. Many of these devices support functionality that enhances the analog features currently available on PIC microcontrollers. For more information visit: www.microchip.com/analog

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Microchip's selection of RF front end devices enhance the performance and operating range of wireless products at 2.4 and 5 GHz. SST Power amplifier products provide high linear output power as required for 802.11 (WiFi®) and 802.15.4 (ZigBee®) standards with industry leading efficiency and reliability. Our selection of integrated Front End Modules (FEM), combines the function of power amplifier with switches, Low Noise Amplifier (LNA) and filters into a single space saving package. The FEM reduces board complexity and sizes. For more information visit:

www.microchip.com/analog

Wireless Products

Microchip offers radio-frequency products for adding wireless connectivity to embedded PIC microcontroller and dsPIC DSC-based designs for the following technologies: IEEE 802.15.4/ZigBee, Sub-GHz RF and IEEE 802.11/Wi-Fi. For more information visit: www.microchip.com/wireless

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Microchip's broad portfolio of memory devices include Serial EEPROM, Serial SRAM, Serial Flash and Parallel Flash Devices. Our innovative, low-power designs and extensive testing have ensured industry leading robustness and endurance along with best-in-class quality at low costs. For more information visit: www.microchip.com/memory

Real-Time Clocks

Microchip offers a family of highly integrated, low cost Real-Time Clock/Calendar devices with battery backup capability, digital trimming along with onboard EEPROM and SRAM memory. For more information visit: www.microchip.com/clock

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16-bit PIC® Microcontrollers (PIC24F)

Product	Released (R) Not Released (NR)	I/O Pins	Core	Memory			Voltage Range	Maximum MIPS	Operating Speed	Analog Sensing & Measurement			LCD Segments	Graphics Controller	Communication			USB 2.0 Peripheral, Host, OTG	PMP	RTCC/CRC	PPS	5 Ku Pricing [†]	Sy			
				Program (KB)	Data RAM (B)	EEPROM				Internal Oscillator	Charge Time Measurement Unit	10bit ADC	10/12-bit ADC 1100/500 KSPS	Comparators	Output Compare/PWM	Input Capture	16-bit Timer [‡]									
80-Pin (Cont.)	PIC24FJ128GB108	R	68	PIC24	128	16384	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$4.20	BOR, LV	
	PIC24FJ256GA108	R	69	PIC24	256	16384	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 I²C	-	✓	✓	\$4.24	BOR, LV	
	PIC24FJ256GB108	R	68	PIC24	256	16384	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$4.62	BOR, LV	
	PIC24FJ64GA310 	R	85	PIC24	64	8192	AN1095 [†]	6	2V-3.6V	16	8 MHz, 32 kHz	✓	-	24	3	480	-	7	7	5	4 UART, 2 SPI, 2 I²C	-	✓	✓	\$3.16	BOR, LV, Deep S
	PIC24FJ128GA310 	R	85	PIC24	128	8192	AN1095 [†]	6	2V-3.6V	16	8 MHz, 32 kHz	✓	-	24	3	480	-	7	7	5	4 UART, 2 SPI, 2 I²C	-	✓	✓	\$3.42	BOR, LV, Deep S
	PIC24FJ64GA010	R	85	PIC24	64	8192	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	-	16	-	2	-	-	5	5	5	2 UART, 2 SPI, 2 I²C	-	✓	✓	\$3.51	BOR, P
	PIC24FJ64GA110	R	85	PIC24	64	16384	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	-	9	9	5	4 UART, 3 SPI, 3 I²C	-	✓	✓	\$3.79	BOR, LV
	PIC24FJ128GA010	R	85	PIC24	128	8192	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	-	16	-	2	-	-	5	5	5	2 UART, 2 SPI, 2 I²C	-	✓	✓	\$3.81	BOR, P
	PIC24FJ128GA110	R	85	PIC24	128	16384	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	-	9	9	5	4 UART, 3 SPI, 3 I²C	-	✓	✓	\$4.03	BOR, LV
	PIC24FJ64GB110	R	84	PIC24	64	16384	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	-	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$4.12	BOR, LV
100-Pin	PIC24FJ128GB110	R	84	PIC24	128	16384	AN1095 [†]	-	2V-3.6V	16	16 MHz, 32 kHz	✓	16	-	3	-	-	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$4.41	BOR, LV
	PIC24FJ256GA110	R	85	PIC24	256	16384	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	-	9	9	5	4 UART, 3 SPI, 3 I²C	-	✓	✓	\$4.45	BOR, LV
	PIC24FJ128GB210	R	84	PIC24	128	98304	AN1095 [†]	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	-	-	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$4.79	BOR, LV
	PIC24FJ128DA110	R	84	PIC24	128	24576	AN1095 [†]	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	-	✓	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$4.83	BOR, LV
	PIC24FJ256GB110	R	84	PIC24	256	16384	AN1095 [†]	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	-	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$4.83	BOR, LV
	PIC24FJ256GB210	R	84	PIC24	256	98304	AN1095 [†]	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	-	-	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$5.14	BOR, LV
	PIC24FJ256DA110	R	84	PIC24	256	24576	AN1095 [†]	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	-	✓	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$5.18	BOR, LV
	PIC24FJ128DA210	R	84	PIC24	128	98304	AN1095 [†]	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	-	✓	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$5.25	BOR, LV
	PIC24FJ256DA210	R	84	PIC24	256	98304	AN1095 [†]	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	-	✓	9	9	5	4 UART, 3 SPI, 3 I²C	✓	✓	✓	\$5.60	BOR, LV

*Parts available with High Temperature options (150°C).

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

16-bit PIC® Microcontrollers (PIC24H/E)

Product	Released (R) Not Released (NR)	IO Pins	Core	Memory				Voltage Range	Maximum MIPS	Operating Speed		Analog Sensing & Measurement				Communication				Modem	System Features							
				Program KB	Data RAM (B)	EEPROM	DMA #Ch			Internal Oscillator	Charge Time Measurement Unit	10-bit ADC	10/12-bit ADC 1100/500 KSPS	Comparators	Op Amps	Output Compare/PWM	Motor Control PWM Ch.	QEI	Input Capture	16-bit Timer ⁽²⁾	Digital Communication	CAN	FS USB OTG	PMP	RTCC/CRC	PPS	5-ku Pricing [†]	
64 Pin (Cont.)	PIC24HJ64GP506A	R	53	PIC24	64	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	1	-	-	-	\$3.60	PBOR, P	
	PIC24HJ128GP206A	R	53	PIC24	128	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	-	8	-	8	9	2 UART, 2 SPI, 1 I²C	-	-	-	-	\$3.63	PBOR, P	
	PIC24HJ128GP306A	R	53	PIC24	128	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	-	-	-	-	\$3.79	PBOR, P	
	PIC24HJ128GP506A*	R	53	PIC24	128	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	1	-	-	-	\$3.85	PBOR, P	
	PIC24HJ256GP206A*	R	53	PIC24	256	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	-	-	-	-	\$4.05	PBOR, P	
	PIC24EP512GP806	NR	53	PIC24	536	53248	AN1095	15	3V-3.6V	70	7.37 MHz, 32 kHz	-	-	24 ch, 2-A/D	3	-	16	-	16	9	4 UART, 2 SPI, 2 I²C	2	-	✓	✓	✓	\$5.60	PBOR, P
100 Pin	PIC24HJ64GP210A	R	85	PIC24	64	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	-	-	-	-	\$3.88	PBOR, P	
	PIC24HJ64GP510A	R	85	PIC24	64	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	1	-	-	-	\$4.06	PBOR, P	
	PIC24HJ128GP210A	R	85	PIC24	128	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	-	-	-	-	\$4.14	PBOR, P	
	PIC24HJ128GP310A	R	85	PIC24	128	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	-	-	-	-	\$4.26	PBOR, P	
	PIC24HJ128GP510A*	R	85	PIC24	128	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	1	-	-	-	\$4.31	PBOR, P	
	PIC24HJ256GP210A	R	85	PIC24	256	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	-	-	-	-	\$4.63	PBOR, P	
144 Pin	PIC24HJ256GP610A*	R	85	PIC24	256	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	2 ADC 32 ch	-	-	8	-	8	9	2 UART, 2 SPI, 2 I²C	2	-	-	-	\$5.08	PBOR, P	
	PIC24EP256GU810	R	83	PIC24	280	28672	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	-	2 ADC 32 ch	3	-	16	-	16	9	4 UART, 4 SPI, 2 I²C	2	1	✓	✓	✓	\$5.70	BOR, P
	PIC24EP512GU810	R	83	PIC24	536	53248	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	-	2 ADC 32 ch	3	-	16	-	16	9	4 UART, 4 SPI, 2 I²C	2	1	✓	✓	✓	\$6.37	BOR, P
	PIC24EP256GU814	R	122	PIC24	280	28672	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	-	2 ADC 32 ch	3	-	16	-	16	9	4 UART, 4 SPI, 2 I²C	2	1	✓	✓	✓	\$6.31	BOR, P
	PIC24EP512GU814	R	122	PIC24	536	53248	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	-	2 ADC 32 ch	3	-	16	-	16	9	4 UART, 4 SPI, 2 I²C	2	1	✓	✓	✓	\$6.99	BOR, P

*Parts available with High Temperature options (150°C).

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

dsPIC33 DSC Motor Control and Power Conversion Family

Product	Released (R) Not Released (NR)	I/O Pins	Core	Memory				DMA #Ch	Voltage Range	Maximum Speed MIPS	Internal Oscillator	Operating Speed			Analog Sensing & Measurement				Communication								
				Program KB	Data RAM (B)	EEPROM	DMA #Ch					Charge Time Measurement Unit	ADC 10/12-bit 1100/500 ksp/s	DAC	Comparators	Op Amps	Output Compare/PWM	Input Capture	Motor Control PWM Ch	QEI	16-bit Timer ⁽²⁾	Digital Communication	CAN	FS USB OTG			
64-Pin (Cont.)	dsPIC33EP256MC506	NR	53	dsPIC	256	32768	AN1095 ⁽¹⁾	4	3V-3.6V	70	7.37 MHz, 32 kHz	✓	16 ch	-	1 + 3 ⁽⁴⁾	3	4	4	6	1	5	2 UART, 2 SPI, 1 I ² C	1	-	-	✓	✓
	dsPIC33FJ64MC506A*	R	53	dsPIC	64	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	16 ch	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-
	dsPIC33FJ128MC506A*	R	53	dsPIC	128	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	16 ch	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-
	dsPIC33FJ64MC706A	R	53	dsPIC	64	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	16 ch, 2 ADC	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-
	dsPIC33FJ128MC706A*	R	53	dsPIC	128	16384	AN1095 ⁽¹⁾	8	3V-3.3V	40	7.37 MHz, 32 kHz	-	16 ch, 2 ADC	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-
	dsPIC33EP256MU806	R	53	dsPIC	280	28672	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	24 ch, 2-ADC	-	3	-	16	16	8	2	9	4 UART, 4 SPI, 2 I ² C	2	1	✓	✓	✓
	dsPIC33EP512MC806	NR	53	dsPIC	536	53248	AN1095 ⁽¹⁾	15	3V-3.6V	70	7.37 MHz, 32 kHz	-	24 ch, 2-A/D	-	3	-	16	16	8	2	9	4 UART, 2 SPI, 2 I ² C	2	-	✓	✓	✓
80-Pin	dsPIC33FJ64MC508A	R	69	dsPIC	64	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	16 ch	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-
	dsPIC33FJ128MC708A	R	69	dsPIC	128	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	18 ch, 2 ADC	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	2	-	-	-	-
	dsPIC33FJ64MC510A	R	85	dsPIC	64	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	24 ch	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-
	dsPIC33FJ128MC510A	R	85	dsPIC	128	8192	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	24 ch	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-
	dsPIC33FJ64MC710A	R	85	dsPIC	64	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	24 ch, 2 ADC	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	2	-	-	-	-
	dsPIC33FJ256MC510A	R	85	dsPIC	256	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	16 ch	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-
	dsPIC33FJ128MC710A*	R	85	dsPIC	128	16384	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	24 ch, 2 ADC	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	2	-	-	-	-
100-Pin	dsPIC33FJ256MC710A*	R	85	dsPIC	256	30720	AN1095 ⁽¹⁾	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	24 ch, 2 ADC	-	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 I ² C	2	-	-	-	-
	dsPIC33EP256MU810	R	83	dsPIC	280	28672	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	32 ch, 2 A/D	-	3	-	16	16	12	2	9	4 UART, 4 SPI, 2 I ² C	2	1	✓	✓	✓
	dsPIC33EP512MU810	R	83	dsPIC	536	53248	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	32 ch, 2 A/D	-	3	-	16	16	12	2	9	4 UART, 4 SPI, 2 I ² C	2	1	✓	✓	✓
	dsPIC33EP256MU814	R	122	dsPIC	280	28672	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	32 ch, 2 A/D	-	3	-	16	16	14	2	9	4 UART, 4 SPI, 2 I ² C	2	1	✓	✓	✓
	dsPIC33EP512MU814	R	122	dsPIC	536	53248	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	32 ch, 2 A/D	-	3	-	16	16	14	2	9	4 UART, 4 SPI, 2 I ² C	2	1	✓	✓	✓
	dsPIC33EP512MU814	R	122	dsPIC	536	53248	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	32 ch, 2 A/D	-	3	-	16	16	14	2	9	4 UART, 4 SPI, 2 I ² C	2	1	✓	✓	✓
	dsPIC33EP512MU814	R	122	dsPIC	536	53248	AN1095 ⁽¹⁾	15	3V-3.6V	60	7.37 MHz, 32 kHz	-	32 ch, 2 A/D	-	3	-	16	16	14	2	9	4 UART, 4 SPI, 2 I ² C	2	1	✓	✓	✓

*Parts available with High Temperature options (150°C).

¹Op amp configured as comparator.

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

dsPIC33 DSC SMPS and Digital Power Conversion Family

Product		Released (R) Not Released (NR)		I/O Pins		Core		Memory			Voltage Range		Operating Speed		Analog			Communication		CAN		PMP		RTCC		PPS		5 Ku Pricing [†]	
								Program KB	Data RAM (B)	EEPROM			Maximum Speed MIPS	Internal Oscillator	ADC 10-bit 2000/4000 kSps	DAC	Comparators	Output Compare/PWM	Input Capture	Power Supply PWM Ch ⁽¹⁾	QEI	16-bit Timer ⁽²⁾	Digital Communication						
18-Pin	dsPIC33FJ06GS101	R	13	dsPIC®	6	256	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	1	-	4	-	2	1 UART, 1 SPI, 1 I ² C	-	-	-	-	✓	\$1.96			
28-Pin	dsPIC33FJ06GS102	R	21	dsPIC	6	256	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	1	-	4	-	2	1 UART, 1 SPI, 1 I ² C	-	-	-	-	✓	\$2.20			
dsPIC33FJ06GS202	R	21	dsPIC	6	1024	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	2 x 10-bit	2	1	1	4	-	2	1 UART, 1 SPI, 1 I ² C	-	-	-	-	✓	\$2.38				
dsPIC33FJ16GS402	R	21	dsPIC	16	2048	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	8 ch	-	-	2	2	6	-	3	1 UART, 1 SPI, 1 I ² C	-	-	-	-	✓	\$2.52				
dsPIC33FJ16GS502	R	21	dsPIC	16	2048	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	8 ch, 2 ADC*	4 x 10-bit	4	2	2	8	-	3	1 UART, 1 SPI, 1 I ² C	-	-	-	-	✓	\$3.04				
44-Pin	dsPIC33FJ16GS404	R	35	dsPIC	16	2048	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	8 ch	-	-	2	2	6	-	3	1 UART, 1 SPI, 1 I ² C	-	-	-	-	✓	\$2.77			
dsPIC33FJ16GS504	R	35	dsPIC	16	2048	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	12 ch, 2 ADC*	4 x 10-bit	4	2	2	8	-	3	1 UART, 1 SPI, 1 I ² C	-	-	-	-	✓	\$3.42				
64-Pin	dsPIC33FJ32GS406	R	58	dsPIC	32	4096	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch	-	-	4	4	12	1	5	2 UART, 2 SPI, 2 I ² C	-	-	-	-	-	\$3.07			
dsPIC33FJ64GS406	R	58	dsPIC	64	8192	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch	-	-	4	4	12	1	5	2 UART, 2 SPI, 2 I ² C	-	-	-	-	-	\$3.35				
dsPIC33FJ32GS606	R	58	dsPIC	32	4096	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch, 2 ADC*	4 x 10-bit	4	4	4	12	2	5	2 UART, 2 SPI, 2 I ² C	-	-	-	-	-	\$3.36				
dsPIC33FJ64GS606	R	58	dsPIC	64	9216	AN1095 ⁽¹⁾	4	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch, 2 ADC*	4 x 10-bit	4	4	4	12	2	5	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-	\$3.81				
80-Pin	dsPIC33FJ32GS608	R	74	dsPIC	32	4096	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch, 2 ADC*	4 x 10-bit	4	4	4	16	2	5	2 UART, 2 SPI, 2 I ² C	-	-	-	-	-	\$3.85			
dsPIC33FJ64GS608	R	74	dsPIC	64	9216	AN1095 ⁽¹⁾	4	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch, 2 ADC*	4 x 10-bit	4	4	4	16	2	5	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-	\$4.34				
100-Pin	dsPIC33FJ32GS610	R	85	dsPIC	32	4096	AN1095 ⁽¹⁾	-	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch, 2 ADC*	4 x 10-bit	4	4	4	18	2	5	2 UART, 2 SPI, 2 I ² C	-	-	-	-	-	\$4.41			
dsPIC33FJ64GS610	R	85	dsPIC	64	9216	AN1095 ⁽¹⁾	4	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch, 2 ADC*	4 x 10-bit	4	4	4	18	2	5	2 UART, 2 SPI, 2 I ² C	1	-	-	-	-	\$4.89				

*Parts available with High Temperature options (150°C).

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

Thermal Management – Temperature Sensors

Product	Typical Accuracy (°C)	Max. Accuracy @ 25°C (°C)	Max. Temperature Range (°C)	Vcc Range (V)	Max. Op Current (µA)	Features
MCP9501/2/3/4	±0.5	±3	-55 to +125	+2.7 to +5.5	40	Cross to MAX6501/2/3/4, Open-drain and push-pull output options
MCP9509/10	±0.5	NS	-40 to +125	+2.7 to +5.5	50	Resistor-programmable temperature switch
MCP9700/01	±1	±4	-40 to +125	+2.3 to +5.5	12	Linear Active Thermistor® IC
MCP9700/01A	±1	±2	-40 to +125	+2.3 to +5.5	12	Linear Active Thermistor® IC
TC1046	±0.5	±2	-40 to +125	+2.7 to +4.4	60	High precision temperature-to-voltage converter, 6.25 mV/°C
TC1047A	±0.5	±2	-40 to +125	+2.5 to +5.5	60	High precision temperature-to-voltage converter, 10 mV/°C
MCP9808	±0.25	±0.5	-40 to +125	+2.7 to +5.5	400	0.5°C temperature accuracy from -10°C to +100°C
MCP9800/1/2/3	±0.5	±1	-55 to +125	+2.7 to +5.5	400	SMbus/I²C™ compatible interface, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement
MCP9804	±0.25	±1	-40 to +125	+2.7 to +5.5	400	User programmable temperature limits with alert output, 1°C temp. accuracy from -40°C to +125°C
MCP9843	±0.5	±1	-20 to +125	+3.0 to +3.6	400	JEDEC compatible register set, SMbus/I²C™ compatible interface, Programmable, Shut-down modes and EVENT output
MCP98243	±1	±3	-40 to +125	+3.0 to +3.6	500	Serial output temperature sensor with integrated EEPROM
TCN75A	±0.5	±2	-40 to +125	+2.7 to +5.5	500	SMbus/I²C™ compatible interface, Power-saving one-shot temperature measurement, Multi-drop capability, 0.0625°C to 0.5°C

Power Management – Switching Regulators/PWM Controllers

Product	Input Voltage Range (V)	Output Voltage (V)	Operating Temperature Range (°C)	Control Scheme	Switching Frequency (kHz)	Typical Active Current (µA)	Output Current (mA)	Features
TC1303/04/13	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	-40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	Synchronous Buck Regulator, LDO w/Power Good with PFM/PWM auto-switching, Power Good output or Power Sequencing
MCP1602/3	2.7 to 5.5	0.8 to 4.5/4.0	-40 to +85	PFM/PWM	2000	35/45	500	Synchronous Buck Regulator PFM, PWM auto-switching, UVLO, Soft-start, Power Good Indicator, Over-temperature/current protection
MCP1630/V 1631/V	3.0 to 5.5	–	-40 to +125	PWM	1000/2000	2800/3700	Ext	Current/Voltage mode PWM controller, UVLO, Short Circuit and Over-temperature Protection, Integrated MOSFET driver
MCP1631HV/HVH	3.5 to 16	–	-40 to +125	PWM	2000	3700	Ext	Current/Voltage mode PWM controller with integrated 16V LDO, UVLO, Integrated error, Current and voltage sense amplifier, Overvoltage protection
MCP1640/B/C/D	0.65 to 6	2.0 to 5.5	-40 to +85	PWM or PWM/PFM	500	19	350	Integrated synchronous boost regulator, -65V start-up voltage, Soft-start, True load disconnect or input-to-output bypass option
MCP1650/1/2/3	2.7 to 5.5	2.5 to ext. tx limited	-40 to +125	Constant Frequency	750	120	560/440	Step-up DC/DC Controller with shutdown control, Low battery detect, Power Good indicator, UVLO, Soft start
MCP16301	4.0 to 30	2.0 to 15	-40 to +85	PWM	500	2000	600	Integrated N-channel, UVLO, Soft-start, Over-temperature protection
MCP16321	6 to 24	0.9 to 5	-40 to +125	PWM/PFM	1000	2300	1000	Integrated switches, Internal compensation, Peak current mode control, Soft-start, UVLO, Power Good pin
MCP16322	6 to 24	0.9 to 5	-40 to +125	PWM/PFM	1000	2300	2000	Integrated switches, Internal compensation, Peak current mode control, Soft-start, UVLO, Power Good pin
MCP16323	6 to 18	0.9 to 5	-40 to +125	PWM/PFM	1000	2300	3000	Integrated switches, Internal compensation, Peak current mode control, Soft-start, UVLO, Power Good pin

Power Management – Linear Regulators

Product	Max. Input Voltage (V)	Output Voltage (V)	Output Current (mA)	Typical Active Current (µA)	Typical Dropout Voltage @ Max. Iout (mV)	Typical Output Voltage Accuracy (%)	Features
TC1016/17	6	1.8 to 4.0	80/150	53	150/285	±0.5	Shutdown
TC1301A/B	6	1.5 to 3.3	LDO1: 300 LDO2: 150	103/114	LDO1: 104 LDO2: 150	±0.5	Dual LDO plus Reset output, Shutdown, Reference bypass, Voltage detect
TC1302AB	6	1.5 to 3.3	LDO1: 300 LDO2: 150	103/114	LDO1: 104 LDO2: 150	±0.5	Dual LDO, Shutdown, Reference bypass, Voltage detect
TC2014/5, TC2185	6	1.8 to 5.0	50/100/150	55	45/90/140	±0.4	Shutdown, Reference bypass input
TC2054/5, TC2186	6	1.8 to 5.0	50/100/150	55	45/90/140	±0.4	Shutdown, Error output
MCP1700	6	1.2 to 5.0	250	1.6	300	±0.4	Very low I _o
MCP1702/3	13.2/16	1.2 to 5.0	250	2	330/625	±0.4	Very low I _o
MCP1725/6/7	6	0.8 to 5.0	500/1000/1500	120/140/140	210/300/330	±0.5	Shutdown, CoELEY, Power Good
MCP1754/S	16	1.8 to 5.5	150	56	300	±0.4	Power Good, Shutdown
MCP1790/1	30	3.0, 3.3, 5.0	70	70	500	±0.2	Load dump, Shutdown, Power Good
MCP1801/2	10	0.9 to 6.0	150/300	25	250/800	±0.4	Shutdown, High PSRR
MCP1804	28	1.8 to 18	150	50	300	±0.5	Shutdown, High PSRR
MCP1824/5/6/7	6	0.8 to 5.0	300/500/1000/1500	120/120/140/140	200/210/300/330	±0.5	Fixed and Adjustable output, Shutdown, Power Good
MCP1824S/5S/6S/7S	6	0.8 to 5.0	300/500/1000/1500	120/120/140/140	200/210/300/330	±0.5	3-pin high current LDOs

Power Management – Charge Pump DC-to-DC Converters

Product	Input Voltage Range (V)	Output Voltage (V)	Operating Temp Range (°C)	Max. Input Current (µA)	Typical Output Current (mA)	
TC1044S	1.5 to 12	-VIN or 2*VIN	-40 to +85	160	20	85 kHz oscillator B
TC7660	1.5 to 10	-VIN or 2*VIN	-40 to +85	180	20	10 kHz oscillator
TC7660H	1.5 to 10	-VIN or 2*VIN	-40 to +85	1000	20	120 kHz oscillator
TC7660S	1.5 to 12	-VIN or 2*VIN	-40 to +85	160	20	45 kHz oscillator B
TC7662B	1.5 to 15	-VIN or 2*VIN	-40 to +85	180	20	35 kHz oscillator B
TC7662A	3.0 to 18	-VIN or 2*VIN	-40 to +85	200	40	12 kHz oscillator
MCP1256	1.8 to 3.6	3.3	-40 to +85	100	100	Power Good Sleep
MCP1257	1.8 to 3.6	3.3	-40 to +85	100	100	Sleep mode low b
MCP1258	1.8 to 3.6	3.3	-40 to +85	100	100	Low battery indica

Power Management – CPU/System Supervisors

Product	Description	Operating Temp Range (°C)	Features	
MCP11(1/2) TC5(1/2/3/4)	System Voltage Detectors (No Reset Delay)	-40 to +125 -40 to +85	Wide Vcc input range, Wide detection range (custom options available), Low current, CMOS/Push-Pull active low reset options	5-SOT-23, 3
MCP809, MCP100, MCP130, MCP120 MCP13XX, TC1270A and more	System Voltage Supervisors (Available Reset Delays)	-40 to +125 -40 to +85	Wide detection range (custom options available), Low current, Push-Pull/Open Drain, Active high/low, Watchdog, Manual reset, Dual output options, Multiple reset delay options	8-SOIC (150)

Power Management – Power MOSFET Drivers

Product	Configuration	Operating Temp Range (°C)	Peak Output Current (A)	Output Resistance (Max.@ 25°C)	Max Supply Voltage (V)	Input/Out
MCP1401/02 Single	Inverting/Non-inverting	-40 to +125	0.5	18/16	18	
MCP1415/16 Single	Inverting/Non-inverting	-40 to +125	1.5	7.5/5.5	18	
TC4467/8/9 Quad	Inverting/ Non-inverting	-40 to +85	1.2	15/15	18	
TC4426A/27A/28A Dual	Inverting/Non-inverting	-40 to +125	1.5	9/9	18	
TC4423A/24A/25A Dual	Inverting/Non-inverting	-40 to +125	3	3 (typ.)/4 (typ.)	18	40
MCP14E3/E4/E5 Dual	Inverting/Non-inverting	-40 to +125	4	3.5/3.0	18	
MCP14E6/E7/E8 Dual	Inverting/Non-inverting/Inverting and Non-inverting	-40 to +125	2	2.2/2.8	18	
MCP14E9/E10/E11 Dual	Inverting/Non-inverting/Inverting and Non-inverting	-40 to +125	3	2.2/2.8	18	
MCP1406/07 Single	Inverting/Non-inverting	-40 to +125	6	1.8/2.0 (typ.)	18	
TC4420/29	Inverting/Non-inverting	-40 to +125	6	2.8/2.5	18	
TC4421A/22A Single	Inverting /Non-inverting	-40 to +125	9	1.25 (typ.)/1.5	18	
TC4451/52 Single	Inverting /Non-inverting	-40 to +125	12	0.6 (typ.)/1.5	18	
TC4431/32 Single	Inverting /Non-inverting	-40 to +85	1.5	10/10	30	

Power Management – Synchronous Buck High-Side Driver

Product	Configuration	Operating Temp Range (°C)	Peak Output Current (A)	Output Resistance (Max.@ 25°C)	Max Supply Voltage (V)	Input/Out
MCP14700/14628	Dual Input/Single input	-40 to +85	2	2.5/2.5	5 (VDD), 36 (Boot Pin)	

Power Management – Battery Chargers

Product	Mode	Cell Type	# of Cells	Vcc Range (V)	Cell Voltage (V)	Max. Charging Current (mA)	Max. Voltage Regulation (%)	Int/Ext FET	Features
MCP73113/14/23	Linear	Li-ion/Li-Polymer and LiFePO4	1	4 to 16	3.6, 4.1, 4.2, 4.35, 4.4	1100	±0.5	Int	6.5/5.8V Overvoltage protection, UVLO, The
MCP73213/23	Linear	Li-ion/Li-Polymer and LiFePO4	2	4 to 16	7.2, 8.2, 8.4, 8.7, 8.8	1100	±0.6	Int	13V Overvoltage protection
MCP73830/L	Linear	Li-ion/Li-Polymer	1	3.75 to 6	4.2	1000/200	±0.75	Int	Soft-start, Charge enable pin
MCP73831/2	Linear	Li-ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable Tri-state or open-drain STAT pin
MCP73837/8	Linear	Li-ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual input (USB/DC) auto-switching, Therm output or Timer enable input
MCP73871	Linear	Li-ion/Li-Polymer	1	3.75 to 6.0	4.2, 4.35, 4.4, 4.5	1500 (A/C Adapter) 500 (USB)	±0.5	Int	Simultaneous charging of load and battery, Multiple programmable charge currents

Linear – Op Amps

Product	# per Package	GBWP (MHz)	Io Typical (µA)	Vos Max (mV)	Operating Voltage (V)	Packages	Product	# per Package	GBWP (MHz)	Io Typical (µA)	Vos Max (mV)
MCP661/2/3/4/5/9	1/2/1/4/2/4	60	6000	8	2.5 to 5.5	SOIC, MSOP, DFN, TSSOP, QFN, SOT	MCP6071/2/4	1/2/4	1.2	110	0.15
MCP651/1S/2/3/4/5/9	1/1/2/1/4/2/4	50	6000	0.2	2.5 to 5.5	SOIC, MSOP, DFN, TSSOP, QFN, SOT	MCP6H01/2/4	1/2/4	1.2	135	4.5
MCP631/2/3/4/5/9	1/2/1/4/2/4	24	2500	8	2.5 to 5.5	SOIC, MSOP, DFN, TSSOP, QFN, SOT	MCP6001/2/4	1/2/4	1	100	4.5
MCP621/1S/2/3/4/5/9	1/1/2/1/4/2/4	20	2500	0.2	2.5 to 5.5	SOIC, MSOP, DFN, TSSOP, QFN, SOT	MCP6401/2/4	1/2/4	1	45	4.5
MCP6021/2/3/4	1/2/1/4	10	1000	0.5	2.5 to 5.5	PDIP, SOIC, MSOP, TSSOP, SOT	MCP6L01/2/4	1/2/4	1	85	5
MCP6291/2/3/4/5	1/2/1/4/2	10	1000	3	2.4 to 6.0	PDIP, SOIC, MSOP, TSSOP, SOT	MCP6061/2/4	1/2/4	0.73	60	0.15
MCP6L91/2/4	1/2/4	10	850	4	2.4 to 6.0	SOIC, MSOP, TSSOP, SOT	MCP6241/2/4	1/2/4	0.55	50	5
MCP6281/2/3/4/5	1/2/1/4/2	5	445	3	2.2 to 6.0	PDIP, SOIC, MSOP, TSSOP, SOT	MCP6051/2/4	1/2/4	0.385	30	0.15
MCP6286	1	3.5	540	1.5	2.2 to 5.5	SOT	MCP6231/2/4	1/2/4	0.3	20	5
MCP601/2/3/4	1/2/1/4	2.8	230	2	2.7 to 6.0	PDIP, SOIC, TSSOP, SOT	MCP616/7/8/9	1/2/1/4	0.19	19	0.15
MCP6L1/2/4	1/2/4	2.8	200	3	2.7 to 6.0	SOIC, MSOP, TSSOP, SOT	MCP606/7/8/9	1/2/1/4	0.155	19	0.25
MCP6271/2/3/4/5	1/2/1/4/2	2	170	3	2.0 to 6.0	PDIP, SOIC, MSOP, TSSOP, SOT	MCP6141/2/3/4	1/2/1/4	0.1	0.6	3
MCP6L71/2/4	1/2/4	2	150	4	2.0 to 6.0	SOIC, MSOP, TSSOP, SOT	MCP6041/2/3/4	1/2/1/4	0.014	0.6	3
MCP6V01/2/3	1/2/1	1.3	300	0.002	1.8 to 5.5	SOIC, DFN, TDFN	MCP6031/2/3/4	1/2/1/4	0.01	0.9	0.15
MCP6V06/7/8	1/2/1	1.3	300	0.003	1.8 to 5.5	SOIC, DFN, TDFN	MCP6441/2/4	1/2/4	0.009	0.45	4.5
MCP6V26/7/8	1/2/1	2	620	0.002	2.3 to 5.5	SOIC, MSOP, DFN					

Linear – Comparators

Product	# per Package	Typical Propagation Delay (µs)	Io Typical (µA)	Vos Max (mV)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6541/2/3/4	1/2/1/4	4	1	5	1.6 to 5.5	-40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6546/7/8/9	1/2/1/4	4	1	5	1.6 to 5.5	-40 to +125	Open-drain, 9V, Rail-to-Rail Input/Out
MCP65R41/6	1	4	2.5	10	1.8 to 5.5	-40 to +125	Integrated VREF (1.21V or 2.4V)
MCP6561/2/4	1/2/4	0.047	100	10	1.8 to 5.5	-40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6566/7/9	1/2/4	0.047	100	10	1.8 to 5.5	-40 to +125	Open-Drain, Rail-to-Rail Input/Output

Mixed Signal – Successive Approximation Register (SAR) Analog-to-Digital Converters

Product	Resolution (bits)	Maximum Sampling Rate (ksamples/sec)	# of Input Channels	Input Type	Interface	Max. Supply Current (µA)	Temp
MCP3021/3221	10/12	22	1	Single-ended	I ² C™	250	
MCP3001/2/4/8	10	200	1/2/4/8	Single-ended	SPI	500-550	
MCP3201/2/4/8	12	100	1/2/4/8	Single-ended	SPI	400-550	
MCP3301/2/4	13	100	1/2/4	Differential	SPI	450	

Mixed Signal – Digital-to-Analog Converters

Product	Resolution (Bits)	DAC Channels	Interface	Voltage Reference	Output Settling Time (μs)	DNL (±LSB)	Typical Operating Current (μA)	
MCP4706/16/26	8/10/12	1	I ² C™	Ext	6	.05/.188/.75	210	
MCP4725	12	1	I ² C™	V _{DD}	6	0.75	175	
MCP4728	12	4	I ² C™	Int	6	0.75	250	
MCP4801/11/21	8/10/12	1	SPI	Int	4.5	0.5/0.5/0.75	330	
MCP4802/12/22	8/10/12	2	SPI	Int	4.5	0.5/0.5/0.75	415	
MCP4901/11/21	8/10/12	1	SPI	Ext	4.5	0.5/0.5/0.75	175	
MCP4902/12/22	8/10/12	2	SPI	Ext	4.5	0.5/0.5/0.75	350	
TC1320/1	8/10	1	SMBus	Ext	10	0.8/2	350	

Mixed Signal – Energy Measurement ICs

Product	Dynamic Range	Typical Accuracy	ADC Channels	Gain Selection	Output Type	Typical Supply Current (mA)	Analog Voltage Range (V)	Digital Voltage Range (V)
MCP3910/11	24-bit resolution	94.5 dB SINAD	2	up to 32	SPI/2-wire	1.7	2.7 to 3.6	2.7 to 3.6
MCP3903	24-bit resolution	91 dB SINAD	6	up to 32	SPI	8.3	4.5 to 5.5	2.7 to 3.6
MCP3905A/06A	500:1 /1000:1	0.1%	2	up to 32	Active power pulse	3.9	4.5 to 5.5	4.5 to 5.5
MCP3909	1000:1	0.1%	2	up to 16	Active power pulse/SPI	3.9	4.5 to 5.5	4.5 to 5.5

Mixed Signal – Digital Potentiometers

Product	# of Taps	Memory	Channels	Interface	Resistance (kΩ)	Temperature Range (°C)	Packages	Product	# of Taps	Memory	Channels	Interface
MCP4011/12/13/14	64	Volatile	1	Up/Down	2.1,5,10,50	-40 to +125	DFN, SOT-23	MCP4331/32	129	Volatile	4	SPI
MCP4017/18/19	128	Volatile	1	I ² C™	5,10,50,100	-40 to +125	SC70	MCP4351/52	257	Volatile	4	SPI
MCP40D17/D18/D19	128	Volatile	1	I ² C™	5,10,50,100	-40 to +125	SC70	MCP4431/32	129	Volatile	4	I ² C™
MCP4021/22/23/24	64	Nonvolatile	1	Up/Down	2.1,5,10,50	-40 to +125	DFN, SOT-23	MCP4441/42	129	Nonvolatile	4	I ² C™
MCP4141/42	128	Nonvolatile	1	SPI	5,10,50,100	-40 to +125	MSOP, QFN, DFN	MCP4451/52	257	Volatile	4	I ² C™
MCP4241/42	128	Nonvolatile	2	SPI	5,10,50,100	-40 to +125	MSOP, QFN, DFN	MCP4461/62	257	Nonvolatile	4	I ² C™
MCP4131/32	128	Volatile	1	SPI	5,10,50,100	-40 to +125	QFN, DFN	MCP4531/32	128	Volatile	1	I ² C™
MCP4231/32	128	Volatile	2	SPI	5,10,50,100	-40 to +125	MSOP, QFN, DFN	MCP4631/32	128	Volatile	2	I ² C™
MCP4151/52	256	Volatile	1	SPI	5,10,50,100	-40 to +125	MSOP, QFN, DFN	MCP4541/42	128	Nonvolatile	1	I ² C™
MCP4161/62	256	Nonvolatile	1	SPI	5,10,50,100	-40 to +125	MSOP, QFN, DFN	MCP4641/42	128	Nonvolatile	2	I ² C™
MCP4251/52	256	Volatile	2	SPI	5,10,50,100	-40 to +125	MSOP, QFN, DFN	MCP4551/52	256	Volatile	1	I ² C™
MCP4261/62	256	Nonvolatile	2	SPI	5,10,50,100	-40 to +125	MSOP, QFN, DFN	MCP4651/52	256	Volatile	2	I ² C™
MCP4341/42	129	Nonvolatile	4	SPI	5,10,50,100	-40 to +125	TSSOP, QFN	MCP4651/62	256	Nonvolatile	1	I ² C™
MCP4361/62	257	Nonvolatile	4	SPI	5,10,50,100	-40 to +125	TSSOP, QFN	MCP4661/62	256	Nonvolatile	2	I ² C™

Mixed Signal – Delta Sigma Analog-to-Digital Converters

Product	Resolution (bits)	Maximum Sampling Rate (samples/sec)	# of Input Channels	Interface	Typical Supply Current (μA)	Temperature Range (°C)	
MCP3421/2/3/4	18 to 12	4 to 240	1/2/2/4 Diff	I ² C™	155	-40 to +125	PGA
MCP3425/6/7/8	16 to 12	15 to 240	1/2/2/4 Diff	I ² C™	155	-40 to +125	PGA
MCP3550/1/3	22	13/14/60	1 Diff	SPI	120	-40 to +125	50 &

Interface – Controller Area Network (CAN), Infrared, LIN Transceivers, Ethernet, Serial Peripherals, USB

Product	Description	Operating Temperature Range (°C)	Other Features
MCP2515	Stand-alone CAN controller with SPI Interface	-40 to +125	3 TX Buffers, 2 RX Buffers, 6 Filters, 2 Masks, Interrupt output, MCP2510 upgrade
MCP2551	CAN (Controller Area Network), High-speed CAN transceiver	-40 to +125	1 Mbps max. CAN bus speed, ISO11898 compatible, Industry standard pinout
MCP202(1/2)	LIN (Local Interconnect Network), LIN transceiver with voltage regulator	-40 to +125	V _{REG} = 3.3V or 5V @ 50 mA, V _{CC} Range = 7 to 18V, Max Baud Rate = 20 Kbaud, Compliant with LIN 1.3, 2.0, 2.1, SAE J2602
MCP200(3/4)A	Stand-alone LIN transceiver	-40 to +125	V _{CC} Range = 6 to 27V, Max Baud Rate = 20 Kbaud, Compliant with LIN 1.3, 2.0, 2.1, SAE J2602, Automotive approved
MCP23X09/18	8-bit I/O port expander, 16-bit I/O port expander	-40 to +125	I ² C (up to 3.4 MHz) or SPI (up to 10 MHz) interface, 25 mA source/sink per I/O
MCP212(0/2), MCP2140A, MCP215(0/5)	Infrared IrDA encoders, Decoders, Protocol handlers	-40 to +85	UART to IR encoder/decoder w/hardware & software baud rate selection, IrDA® standard protocol handler plus encoder
MCP2200	UART-to-USB protocol converter	-40 to +85	Supports full speed, USB 2.0 compliant, Integrated PHY, Tx/Rx Buffer size 128 bytes each, 8 GPIO, V _{DD} Range = 3.0 to 5.5V
MCP2210	USB-to-SPI protocol converter	-40 to +85	Supports full speed, USB 2.0 compliant, Integrated PHY, Tx/Rx Buffer size 64 bytes each, 9 GPIO, V _{DD} Range = 3.0 to 5.5V
ENC28J60	Stand-alone 10 Base-T Ethernet controller with SPI interface	-40 to +85	Ethernet controller, 8 KB RAM Buffer, Integrated 10 BASE-T PHY
ENC424J600	Stand-alone 10/100 Base-T Ethernet controller with SPI and parallel interface	-40 to +85	Ethernet controller, 24 KB RAM Buffer, Cryptographic Security Engine, 10/100 Base-T PHY
ENC624J600	Stand-alone 10/100 Base-T Ethernet controller with SPI and parallel interface	-40 to +85	Ethernet controller, 24 KB RAM Buffer, Cryptographic Security Engine, 10/100 Base-T PHY

Interface – mTouch™ AR1000 Resistive Touch Screen Controllers

Product	Type	Communication	Touch Screens Supported	A/D	Resolution	Power	Points per second	Baud Rate	Operating Temperature Range (°C)	Static Protection	5 ku Pricing
AR1010	Analog Resistive	UART	All Manufacturers 4, 5 and 8 wire	Internal 10-bit Ratiometric	1024 X 1024	3.3V DC ±5% 5.5V DC ±5%	140 pps	Standard 9600	-40 to +85	Per schematic	\$1.39
AR1020	Analog Resistive	SPI, I ² C™	All Manufacturers 4, 5 and 8 wire	Internal 10-bit Ratiometric	1024 X 1024	3.3V DC ±5% 5.5V DC ±5%	140 pps	Standard 9600	-40 to +85	Per schematic	\$1.39

Safety & Security – Smoke Detector and Horn Driver ICs

Product	Horn Driver	Detection Method	Low Battery Detection	Alarm Memory	Alarm Interconnect	Hush/Sensitivity Timer	Operating Range (V)
RE46C140/1/3/4/5	Yes	Photo	Yes	No	Yes	140/4/5	
RE46C12X & 152	Yes	Ion	Yes	No	Not 120	122/7,152	
RE46C10X & 11X	Yes	Just Driver	5/7/9/19	NA	9/19	None	
RE46C162/3, 5/6/7/8	Yes	Ion/Photo	Yes	Yes	Yes	Yes	
RE46C180	Yes	Ion	Yes	Yes	Yes	Yes	
RE46C190	Yes	Photo	Yes	Yes	Yes	Yes	

Motor Drivers – Stepper Motors, DC Motors and 3 Phase BLDC Fan Controllers

Product	Motor Type	Input Voltage Range (V)	Internal/External FETs	Output Current (mA)	Control Scheme	Motor Speed Output	Protections	Temperature Operating Range (°C)	
MTS62C19A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overcurrent, Overtemperature, Under Voltage	-20 to +85	Dual Full Bridge Motor Driver Allegro 6219
MTS2916A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overcurrent, Overtemperature, Under Voltage	-20 to +85	Dual Full Bridge Motor Driver Allegro 2916
MTD6505	3-Phase Brushless DC Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Overvoltage, Short Circuit, Overtemperature, Motor Lock-up	-40 to +125	180° Sinusoidal Sensors Coefficient Range
MTD6501C	3-Phase Brushless DC Motor	2.0 to 14.0	Internal	800	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Short Circuit Overtemperature, Motor Lock-up	-30 to +95	180° Sinusoidal Sensors
MTD6501D	3-Phase Brushless DC Motor	2.0 to 14.0	Internal	500	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Short Circuit Overtemperature, Motor Lock-up	-30 to +95	180° Sinusoidal Sensors
MTD6502B	3-Phase Brushless DC Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Short Circuit Overtemperature, Motor Lock-up	-40 to +125	180° Sinusoidal Sensors

Real-Time Clock/Calendar (RTCC)

Bus	Product	Timing Features				Memory ⁽¹⁾			Power		Unique Features ⁽²⁾	Pins
		Digital Trimming (Adj/Range)	Alarm Settings	WDT	Outputs	SRAM (Bytes)	EEPROM (Kbits)	ID/MAC (Bits)	Minimum Voltages	I _{BAT} (nA)		
I ² C TM	MCP7941X	± 127 ppm/+1 ppm	2 (1 sec.)	-	MFP (I _{RO} /CLK)	64	1	64	V _{CC} : 1.8V, V _{BAT} : 1.3V	<700	Power Fail Timestamp	8 S
	MCP7940X	± 127 ppm/+1 ppm	2 (1 sec.)	-	MFP (I _{RO} /CLK)	64	0	64	V _{CC} : 1.8V, V _{BAT} : 1.3V	<700	Power Fail Timestamp	8 S
	MCP7940N	± 127 ppm/+1 ppm	2 (1 sec.)	-	MFP (I _{RO} /CLK)	64	0	0	V _{CC} : 1.8V, V _{BAT} : 1.3V	<700	Power Fail Timestamp	8 S
	MCP7940M	± 127 ppm/+1 ppm	2 (1 sec.)	-	MFP (I _{RO} /CLK)	64	0	0	V _{CC} : 1.8V	-	-	8 P
SPI	MCP795W2X	± 255 ppm/+1 ppm	2 (0.01 sec.)	✓	1. CLK 2. I _{RO} 3. WDT RST	64	2	128	V _{CC} : 1.8V, V _{BAT} : 1.3V	<700	Power Fail Timestamp, Event Detects (x2)	14 S
	MCP795W1X	± 255 ppm/+1 ppm	2 (0.01 sec.)	✓	1. CLK 2. I _{RO} 3. WDT RST	64	1	128	V _{CC} : 1.8V, V _{BAT} : 1.3V	<700	Power Fail Timestamp, Event Detects (x2)	14 S
	MCP795B2X	± 255 ppm/+1 ppm	2 (0.01 sec.)	✓	1. CLK 2. I _{RO} 3. WDT RST	64	2	128	V _{CC} : 1.8V, V _{BAT} : 1.3V	<700	Power Fail Timestamp, Event Detects (x2), 32 KHz Boot Clock	14 S
	MCP795B1X	± 255 ppm/+1 ppm	2 (0.01 sec.)	✓	1. CLK 2. I _{RO} 3. WDT RST	64	1	128	V _{CC} : 1.8V, V _{BAT} : 1.3V	<700	Power Fail Timestamp, Event Detects (x2), 32 KHz Boot Clock	14 S
	MCP7952X	± 255 ppm/+1 ppm	2 (0.01 sec.)	-	MFP (I _{RO} /CLK)	64	2	128	V _{CC} : 1.8V, V _{BAT} : 1.3V	<700	Power Fail Timestamp	10 M
	MCP7951X	± 255 ppm/+1 ppm	2 (0.01 sec.)	-	MFP (I _{RO} /CLK)	64	1	128	V _{CC} : 1.8V, V _{BAT} : 1.3V	<700	Power Fail Timestamp	10 M

1. All part numbers with an "X" have 3 ID programming options: 0 = Blank ID; 1 = EUI-48TM MAC Address; 2 = EUI-64TM MAC Address

2. The Power Fail Timestamp in all RTCCs occur at Battery Switchover.

Serial Memory Products

Bus	Product	Released (R) Not Released (NR)	Density	Organization	Max Clock Frequency	Operating Voltage	Temperature Range	EM Endurance (Minimum)	Data Retention (Minimum)	Max. Write Speeds	Max. Standby Current (@5.5V, 85°C)	Write Protect	Protected Array Size	5 Ku Pricing [†]	Special/Unique Features		
Serial SRAM																	
SPI	23X640	R	64 Kb	x8	20 MHz	1.5V-1.95V 2.7V-3.6V	-40°C to +125°C	∞	Volatile	0 ms	4 μA	-	-	\$0.51	Zero write cycle time, Infinite endurance, Volatile RAM, Byte/page/sequential read-write modes	PDIP (P), SOIC (SN), TSSOP (ST)	
	23X256	R	256 Kb	x8	20 MHz	1.5V-1.95V 2.7V-3.6V	-40°C to +125°C	∞	Volatile	0 ms	4 μA	-	-	\$0.87	Zero write cycle time, Infinite endurance, Volatile RAM, Byte/page/sequential read-write modes	PDIP (P), SOIC (SN), TSSOP (ST)	
	23XX512	NR	512 Kb	x8	20 MHz	1.5V-1.95V 2.7V-3.6V 4.5V-5.5V	-40°C to +125°C	∞	Volatile or Non-Volatile	0 ms	4 μA	-	-	Call for Pricing	Non-Volatile RAM: Battery backup available, Fast speed: Quad SPI available, Infinite endurance, Zero write times	SOIC (SN), TSSOP (ST)	
	23XX1024	NR	1024 Kb	x8	20 MHz	1.5V-1.95V 2.7V-3.6V 4.5V-5.5V	-40°C to +125°C	∞	Volatile or Non-Volatile	0 ms	4 μA	-	-	\$1.73	Non-Volatile RAM: Battery backup available, Fast speed: Quad SPI available, Infinite endurance, Zero write times	SOIC (SN), TSSOP (ST)	
Serial EEPROM																	
I ² C Bus	11XX010	R	1 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	-	✓	W, ½, ¼	\$0.23	Single I/O for all clock, data, control and write protection	PDIP (P), SOIC (SN), MSOP (ST)
	11XX020/E48	R	2 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	-	✓	W, ½, ¼	\$0.25	Single I/O for all clock, data, control and write protection, Unique EUI-48™/EUI-64™ MAC address option available	PDIP (P), SOIC (SN), MSOP (ST)
	11XX040	R	4 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	-	✓	W, ½, ¼	\$0.26	Single I/O for all clock, data, control and write protection	PDIP (P), SOIC (SN), MSOP (ST)
	11XX080	R	8 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	-	✓	W, ½, ¼	\$0.30	Single I/O for all clock, data, control and write protection	PDIP (P), SOIC (SN), MSOP (ST)
	11XX160	R	16 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	-	✓	W, ½, ¼	\$0.33	Single I/O for all clock, data, control and write protection	PDIP (P), SOIC (SN), MSOP (ST)
I ² C	24XX00	R	128 b	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	4 ms	1 μA	-	-	-	\$0.17	100 KHz operation from 1.7V to 4.5V	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX01/014	R	1 Kb	x8	400 kHz	1.7V-5.5V 1.5V-3.6V	-40°C to +150°C	1M	200 Years	5 ms	1 μA	✓	-	W, ½	\$0.18	Address pin option - connect up to 8 devices on bus, Very low voltage option	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX02/024/E48	R	2 Kb	x8	400 kHz	1.7V-5.5V 1.5V-3.6V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	-	W, ½	\$0.20	Address pin option - connect up to 8 devices on bus, Very low voltage option, Unique EUI-48™/EUI-64™ MAC address option available	PDIP (P), SOIC (SN), TSSOP (ST)
	34XX02	R	2 Kb	x8	1 MHz	1.7V-5.5V 1.5V-3.6V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	✓	W, ½	\$0.18	1 MHz @ 2.5V, Permanent and restable software WP - DIMM-DDR2/3	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX00	R	128 b	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	4 ms	1 μA	-	-	-	\$0.17	100 KHz operation from 1.7V to 4.5V	PDIP (P), SOIC (SN), TSSOP (ST)
I ² C	24XX01/014	R	1 Kb	x8	400 kHz	1.7V-5.5V 1.5V-3.6V	-40°C to +150°C	1M	200 Years	5 ms	1 μA	✓	-	W, ½	\$0.18	Address pin option - connect up to 8 devices on bus, Very low voltage option	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX02/024/E48	R	2 Kb	x8	400 kHz	1.7V-5.5V 1.5V-3.6V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	-	W, ½	\$0.20	Address pin option - connect up to 8 devices on bus, Very low voltage option, Unique EUI-48™/EUI-64™ MAC address option available	PDIP (P), SOIC (SN), TSSOP (ST)
	34XX02	R	2 Kb	x8	1 MHz	1.7V-5.5V 1.5V-3.6V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	✓	W, ½	\$0.18	1 MHz @ 2.5V, Permanent and restable software WP - DIMM-DDR2/3	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX04	R	4 Kb	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	-	W, ½	\$0.21	400 KHz @ 2.5V, 16 byte page write buffer, No address pins	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX08	R	8 Kb	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	-	W, ½	\$0.23	400 KHz @ 2.5V, 16 byte page write buffer, No address pins	PDIP (P), SOIC (SN), TSSOP (ST)
I ² C	24XX16	R	16 Kb	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	-	W, ½	\$0.25	400 KHz @ 2.5V, 16 byte page write buffer, No address pins	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX32A	R	32 Kb	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	-	W, ¼	\$0.31	400 KHz @ 2.5V, 32 byte page write buffer, connect up to 8 devices on bus	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX64/65	R	64 Kb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M, 10M	200 Years	5 ms	1 μA	✓	-	W, ¼	\$0.38	1 MHz @ 2.5V, 32/64 byte page, Relocatable 4 Kb block with 10M cycles endurance	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX128	R	128 Kb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	-	W	\$0.54	1 MHz @ 2.5V, 64 byte page, Connect up to 8 devices on bus	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX256	R	256 Kb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	-	W	\$0.83	1 MHz @ 2.5V, 64 byte page, Connect up to 8 devices on bus	PDIP (P), SOIC (SN), TSSOP (ST)
I ² C	24XX512	R	512 Kb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 μA	✓	-	W	\$1.50	1 MHz @ 2.5V, 128 byte page, Connect up to 8 devices on bus	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX1025/26	R	1 Mb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	5 μA	✓	-	W	\$3.14	1 MHz @ 2.5V, 128 byte page, Connect up to 4 devices on bus	PDIP (P), SOIC (SN), TSSOP (ST)
	24XX1024	NR	1 Mb	x8	1 MHz	2.5V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	5 μA	✓	-	W	-	1 MHz @ 2.5V, 256 byte page, Connect up to 4 devices on bus	PDIP (P), SOIC (SN), TSSOP (ST)

1. All devices are Pb-Free and RoHS compliant.

2. ESD protection > 4 KV (HBM): >400V (MM) on all pins.

3. Write Protect (WP): W = Whole Array, ½ = Half Array, ¼ = Quarter Array.

4. Factory program and unique ID options available.

5. Die and wafer options available on all devices.

† - Pricing subject to change: please contact your Microchip representative for most current pricing.

Serial Memory Products

Bus	Product	Released (R) Not Released (NR)	Density	Organization	Max. Clock Frequency	Operating Voltage	Temperature Range	E/W Endurance (Minimum)	Data Retention (Minimum)	Max. Write Speeds	Max. Standby Current (@5.5V, 85°C)	Write Protect	Protected Array Size	5 ku Pricing [†]	Special/Unique Features		
Serial EEPROM (Cont.)																	
Microwire	93XX46A/B/C	R	1 Kb	x8/x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	-	-	\$0.18	ORG pin to select word size on 46C version	PDIP (P), SOIC (SN)	
	93XX56A/B/C	R	2 Kb	x8 / x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	-	-	\$0.20	ORG pin to select word size in 56C version	PDIP (P), SOIC (SN)	
	93XX66A/B/C	R	4 Kb	x8 / x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	-	-	\$0.21	ORG pin to select word size in 66C version	PDIP (P), SOIC (SN)	
	93XX76A/B/C	R	8 Kb	x8 / x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	✓	-	W	\$0.30	ORG pin to select word size in 76C version	PDIP (P), SOIC (SN)
	93XX86A/B/C	R	16 Kb	x8 / x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	✓	-	W	\$0.33	ORG pin to select word size in 86C version	PDIP (P), SOIC (SN)
SPI	25XX010A	R	1 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.30	5 MHz @ 2.5V, Status register, 16 byte page	PDIP (P), SOIC (SN)
	25XX020A/E48	R	2 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.31	5 MHz @ 2.5V, Status register, 16 byte page, Unique EUI-48™/EUI-64™ MAC address option available	PDIP (P), SOIC (SN)
	25XX040A	R	4 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.33	5 MHz @ 2.5V, Status register, 16 byte page	PDIP (P), SOIC (SN)
	25XX080C/D	R	8 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.40	16/32 byte page, 5 MHz @ 2.5V, Status register	PDIP (P), SOIC (SN)
	25XX160C/D	R	16 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.41	16/32 byte page, 5 MHz @ 2.5V, Status register	PDIP (P), SOIC (SN)
	25XX320A	R	32 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.45	5 MHz @ 2.5V, Status register, 32 byte page	PDIP (P), SOIC (SN)
	25XX640A	R	64 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.46	5 MHz @ 2.5V, Status register, 32 byte page	PDIP (P), SOIC (SN)
	25XX128	R	128 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.74	5 MHz @ 2.5V, Status register, 64 byte page	PDIP (P), SOIC (SN)
	25XX256	R	256 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$1.01	5 MHz @ 2.5V, Status register, 64 byte page	PDIP (P), SOIC (SN)
	25XX512	R	512 Kb	x8	20 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	10 µA	✓	✓	W, ½, ¼	\$1.53	10 MHz @ 2.5V, Deep power down, Status register, Page/sector/chip erase	PDIP (P), SOIC (SN)
	25XX1024	R	1 Mb	x8	20 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	12 µA	✓	✓	W, ½, ¼	\$2.59	10 MHz @ 2.5V, Deep power down, Status register, Page/sector/chip erase	PDIP (P), DFN (MF)

1. All devices are Pb-Free and RoHS compliant.

2. ESD protection > 4 KV (HBM): >400V (MM) on all pins.

3. Write Protect (WP): W = Whole Array, ½ = Half Array, ¼ = Quarter Array.

4. Factory program and unique ID options available.

5. Die and wafer options available on all devices.

† - Pricing subject to change; please contact your Microchip representative for most current pricing.

SST Serial Flash Memory

Bus	Product*	Released (R) Not Released (NR)	Density	Organization	Max. Clock Frequency	Operating Voltage	Temperature Range	E/W Endurance (Typical)	Data Retention (Minimum)	Write Speed (Typical)	Write Protect			Special/Unique Features	
											Max. Standby Current	Hardware	Software	Protected Array Size	
x1	SST25VF512A	R	512 Kb	64K x 8	33 MHz	2.7-3.6V	0°C to 70°C -40°C to +85°C -20 to -85°C	100,000 cycles (typical)	100 years	14 µs (Byte Program)	8 µA	✓	✓	Various	Auto address increment programming, Fast read, program
	SST25VF010A	R	1 Mb	128K x 8	33 MHz	2.7-3.6V	0°C to 70°C -40°C to +85°C -20 to -85°C	100,000 cycles (typical)	100 years	14 µs (Byte Program)	8 µA	✓	✓	Various	Auto address increment programming, Fast read, program
	SST25VF020B	R	2 Mb	256K x 8	80 MHz	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles (typical)	100 years	7 µs (Word Program)	5 µA	✓	✓	Various	Auto address increment programming, Fast read, program
	SST25VF040B	R	4 Mb	512K x 8	80 MHz	2.7-3.6V	-40°C to +85°C	100,000 cycles (typical)	100 years	7 µs (Word Program)	5 µA	✓	✓	Various	Auto address increment programming, Fast read, program
	SST25VF080B	R	8 Mb	1M x 8	80 MHz	2.7-3.6V	-40°C to +85°C	100,000 cycles (typical)	100 years	7 µs (Word Program)	5 µA	✓	✓	Various	Auto address increment programming, Fast read, program
	SST25VF016B	R	16 Mb	2M x 8	75 MHz	2.7-3.6V	-40°C to +85°C	100,000 cycles (typical)	100 years	7 µs (Word Program)	5 µA	✓	✓	Various	Auto address increment programming, Fast read, program
	SST25VF032B	R	32 Mb	4M x 8	80 MHz	2.7-3.6V	-40°C to +85°C	100,000 cycles (typical)	100 years	7 µs (Word Program)	5 µA	✓	✓	Various	Auto address increment programming, Fast read, program
x1, x2	SST25VF032B	R	32 Mb	4M x 8	80 MHz	2.7-3.6V	-40°C to +85°C	100,000 cycles (typical)	100 years	7 µs (Word Program)	5 µA	✓	✓	Various	Auto address increment programming, Fast read, program
	SST25VF064C	R	64 Mb	8M x 8	80 MHz	2.7-3.6V	-40°C to +85°C	100,000 cycles (typical)	100 years	1.5 ms (Page Program)	5 µA	✓	✓	Various	Dual output and dual I/O read, Single- and dual-input page program, One-time programmable area, Fast read, program and protect
	SST26VF016	R	16 Mb	2M x 8	80 MHz	2.7-3.6V	-40°C to +85°C	100,000 cycles (minimum)	100 years	1 ms (Page Program)	8 µA	✓	✓	Various	SQL™ Quad I/O read/program/erase, Burst read, Individual block read and write protection, Fast read, program and protect
	SST26VF032	R	32 Mb	4M x 8	80 MHz	2.7-3.6V	-40°C to +85°C	100,000 cycles (minimum)	100 years	1 ms (Page Program)	8 µA	✓	✓	Various	SQL™ Quad I/O read/program/erase, Burst read, Individual block read and write protection, Fast read, program and protect
	SST26WF080B	NR	8 Mb	1M x 8	104 MHz	1.65-1.95V	0°C to 70°C -40°C to +85°C	100,000 cycles (minimum)	100 years	1 ms (Page Program)	3 µA	✓	✓	Various	x1, x2, x4 read, Single-and quad-input page program, Individual block read and write protection, Fast read, program and protect
	SST26WF016B	NR	16 Mb	2M x 8	104 MHz	1.65-1.95V	0°C to 70°C -40°C to +85°C	100,000 cycles (minimum)	100 years	1 ms (Page Program)	3 µA	✓	✓	Various	x1, x2, x4 read, Single-and quad-input page program, Individual block read and write protection, Fast read, program and protect
	SST26WF032B	NR	32 Mb	4M x 8	104 MHz	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles (minimum)	100 years	1 ms (Page Program)	15 µA	✓	✓	Various	x1, x2, x4 read, Single-and quad-input page program, Individual block read and write protection, Fast read, program and protect
x1, x2, x4	SST26WF064B	NR	64 Mb	8M x 8	104 MHz	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles (minimum)	100 years	1 ms (Page Program)	15 µA	✓	✓	Various	x1, x2, x4 read, Single-and quad-input page program, Individual block read and write protection, Fast read, program and protect

*2.5V available on certain 25 series devices.

**Only standard packages are listed here. Please inquire with your local sales office for devices in die form or in chip-scale packages.

LPC Firmware Flash/Firmware Hub Flash Memory

Bus	Product	Released (R) Not Released (NR)	Density	Organization	Max. Clock Frequency	Operating Voltage	Temperature Range	E/W Endurance (Typical)	Data Retention (Minimum)	Write Speed (Typical)	Write Protect			Special/Unique Features	
											Max. Standby Current	Hardware	Software	Protected Array Size	
x4	SST49LF008A	R	8 Mb	1M x 8	33 MHz	3.0-3.6V	0°C to 70°C	100,000 cycles (minimum)	100 years	14 µs (Byte Program)	14 µA	✓	✓	Various	Firmware Hub (FWH) device for PC-BIOS application, provide protection for the storage and update of code
	SST49LF016C	R	16 Mb	2M x 8	33 MHz	3.0-3.6V	0°C to 70°C	100,000 cycles (minimum)	100 years	14 µs (Byte Program)	14 µA	✓	✓	Various	Firmware Hub (FWH) device for PC-BIOS application, provide protection for the storage and update of code
	SST49LF080A	R	8 Mb	1M x 8	33 MHz	3.0-3.6V	0°C to 70°C	100,000 cycles (minimum)	100 years	14 µs (Byte Program)	14 µA	✓	✓	Various	LPC Flash devices comply with the standard Intel Low Specification 1.1, provide protection for the storage and update of code
	SST49LF160C	R	16 Mb	2M x 8	33 MHz	3.0-3.6V	0°C to 70°C	100,000 cycles (minimum)	100 years	14 µs (Byte Program)	14 µA	✓	✓	Various	LPC Flash devices comply with the standard Intel Low Specification 1.1, provide protection for the storage and update of code

SST Parallel Flash Memory

Bus	Product*	Released (R) Not Released (NR)	Performance & Reliability											Special/Unique Features
			Density	Organization	Read Access Speed	Operating Voltage	Temperature Range	E/W Endurance (Typical)	Data Retention (Minimum)	Write Speed (Typical)	Write Protect			
											Max. Standby Current	Hardware	Software	Protected Array Size
x8	SST39SF010A	R	1 Mb	128K x 8	45/70 ns	4.5-5.5V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	14 µs (Byte Program)	30 µA	-	-	N/A
	SST39LF010	R	1 Mb	512K x 8	45 ns	3.0-3.6V	0°C to 70°C	100,000 cycles	100 years	14 µs (Byte Program)	1 µA	-	-	N/A
	SST39VF010	R	1 Mb	512K x 8	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	14 µs (Byte Program)	1 µA	-	-	N/A
	SST39LF020	R	2 Mb	512K x 8	45/55 ns	3.0-3.6V	0°C to 70°C	100,000 cycles	100 years	14 µs (Byte Program)	1 µA	-	-	N/A
	SST39SF020A	R	2 Mb	256K x 8	45/55/70 ns	4.5-5.5V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	14 µs (Byte Program)	30 µA	-	-	N/A
	SST39VF020	R	2 Mb	512K x 8	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	14 µs (Byte Program)	1 µA	-	-	N/A
	SST39SF040	R	4 Mb	512K x 8	45/70 ns	4.5-5.5V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	14 µs (Byte Program)	30 µA	-	-	N/A
	SST39LF040	R	4 Mb	512K x 8	45 ns	3.0-3.6V	0°C to 70°C	100,000 cycles	100 years	14 µs (Byte Program)	1 µA	-	-	N/A
	SST39VF040	R	4 Mb	512K x 8	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	14 µs (Byte Program)	1 µA	-	-	N/A
	SST39VF168X	R	16 Mb	2M x 8	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	7 µs (Byte Program)	3 µA	✓	-	64 KB
x16	SST39LF200A	R	2 Mb	128K x 16	55 ns	3.0-3.6V	0°C to 70°C	100,000 cycles	100 years	14 µs (Word Program)	3 µA	-	-	N/A
	SST39VF200A	R	2 Mb	128K x 16	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	14 µs (Word Program)	3 µA	-	-	N/A
	SST39LF40XC	R	4 Mb	256K x 16	55 ns	3.0-3.6V	0°C to 70°C	100,000 cycles	100 years	7 µs (Word Program)	3 µA	✓	-	8 KB
	SST39WF400B	R	4 Mb	256K x 16	70 ns	1.65-1.95V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	28 µs (Word Program)	5 µA	-	-	N/A
	SST39VF40XC	R	4 Mb	256K x 16	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	7 µs (Word Program)	3 µA	✓	-	8 KB
	SST39WF800B	R	8 Mb	512K x 16	70 ns	1.65-1.95V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	28 µs (Word Program)	5 µA	-	-	N/A
	SST39LF80XC	R	8 Mb	512K x 16	55 ns	3.0-3.6V	0°C to 70°C	100,000 cycles	100 years	7 µs (Word Program)	3 µA	✓	-	N/A
	SST39VF80XC	R	8 Mb	512K x 16	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	7 µs (Word Program)	3 µA	✓	-	N/A
	SST39WF160X	R	16 Mb	1M x 16	70 ns	1.65-1.95V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	28 µs (Word Program)	5 µA	✓	-	32 KB
	SST39VF160XC	R	16 Mb	1M x 16	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	7 µs (Word Program)	3 µA	✓	-	8 KB
	SST39VF160X	R	16 Mb	2M x 8	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	7 µs (Byte Program)	3 µA	✓	-	64 KB
	SST39VF320XB	R	32 Mb	2M x 16	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	7 µs (Word Program)	4 µA	✓	-	32 KB
	SST39VF320XC	R	32 Mb	2M x 16	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	7 µs (Word Program)	4 µA	✓	-	8 KB
	SST38VF640X	R	64 Mb	4M x 16	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	7 µs/1.75 µs (Write Buffer Program)	3 µA	✓	✓	32 KB/ 8 KB
	SST38VF640XB	NR	64 Mb	4M x 16	70 ns	2.7-3.6V	0°C to 70°C -40°C to +85°C	100,000 cycles	100 years	7 µs/1.75 µs (Write Buffer Program)	3 µA	✓	✓	32 KB/ 8 KB

*X is a wildcard to indicate "top" or "bottom" boot block support. Please refer to the respective datasheets for more details.

*Only standard packages are listed here. Please inquire with your local sales office for devices in die form or in chip-scale packages.

SST RF Products

WLAN Power Amplifiers

Product	Description	Frequency (GHz)	PA/Tx Gain (dB)	Linear Power (dBm)	% EVM	Voltage Range (V)	LNA/Rx Gain (dB)
SST11CP15-QUBE	WLAN 11a/n PA (Low Current)	5	25.5-28.5	18.5 21	3.0% 3.0%	3.3 5	-
SST11LP12-QCF	WLAN 11a/n PA (High Power)	5	35	21	3.0%	3.3	-
SST12LP07A-QXBE	WLAN 11b/g/n PA	3.4	28	20.5	3.0%	3.3	-
SST12CP11-QVCE	WLAN 11b/g/n PA (Ultra High Power)	2.4	34	25	3.0%	5	-
SST12LP07-QVCE-MM007	WLAN 11b/g/n PA	2.4	29	19.5	3.0%	3.3	-
SST12LP08A-QX8E	WLAN 11b/g/n High Gain PA	2.4	29	20.5	3.0%	3.3	-
SST12LP08-QX6E	WLAN 11b/g/n High Gain PA	2.4	30	20	3.0%	3.3	-
SST12LP08-QXBE	WLAN 11b/g/n High Gain PA	2.4	30	20	3.0%	3.3	-
SST12LP14A-QVCE	WLAN 11b/g PA	2.4	29	21	3.0%	3.3	-
SST12LP14C-QVCE	WLAN 11b/g PA	2.4	32	20	4.0%	3.3	-
SST12LP14E-QX6E	WLAN 11b/g/n PA (Low Current)	2.4	23	19	3.0%	3.3	-
SST12LP14E-QX8E	WLAN 11b/g/n PA (Low Current)	2.4	23	19	3.0%	3.3	-
SST12LP14-QVCE	WLAN 11b/g PA	2.4	30	20	4.0%	3.3	-
SST12LP15A-QVCE	WLAN 11b/g/n PA (High Power)	2.4	32	22	3.0%	3.3	-
SST12LP15B-QVCE	WLAN 11b/g/n PA (High Power)	2.4	32	22	<3%	3.3	-
SST12LP18E-QX8E	WLAN 11b/g/n PA (Low Current /Low Voltage)	2.4	25	18	3.0%	3.3	-
SST12LP19E-QX6E	WLAN 11b/g/n PA (Low Current)	2.4	25	20	3.0%	3.3	-
SST12LP19E-QX8E	WLAN 11b/g/n PA (Low Current)	2.4	25	20	3.0%	3.3	-

WLAN Power Amplifier Modules

SST13LP05-MLCF	WLAN 11a/b/g Dual-Band 50 Ω Matched PAM	2.4 5	29 29-26	18.5 17.5	3.0%	3.3	-
SST12LP17E-QU8E	WLAN 11b/g/n 50 Ω Matched PAM	2.4	29	18	<3%	3.3	-

Front End Modules

SST12LF01-QDE	WLAN 11b/g FEM (PA+LNA)	2.4	29	19	3.0%	3.3	14
SST12LF02-QXCE	WLAN 11b/g/n FEM (PA+SP3T)	2.4	29	18.5	3.0%	3.3	-0.5

Low-Noise Amplifier

SST12LN01-QU6E	WLAN 2.4 GHz LNA	2.4	-	-	-	3.3	14
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Product Packages

Small Outline	Dual Flat No Lead DFN	Quad Flat No Lead QFN	Plastic Shrink Small Outline SSOP
Bumped Die (WLCSP)		8-lead DFN (MC) 2 x 3 x 0.9 mm	
Die/Wafer (WLCSP)		8-lead TDFN (MN) 2 x 3 x 0.75 mm	
3-lead SC70 (LB)		5-lead DDPAK (ET)	
5-lead SC70 (LT)		3-lead SOT-89	
3-lead SOT-23 (TT/CB)		3-lead TO-92 (TO/ZB)	
5-lead SOT-23 (OT)		8-lead DFN (MD) 4 x 4 x 0.9 mm	
6-lead SOT-23 (OT/CH)		8-lead DFN (MF) 6 x 5 x 0.9 mm	
3-SOT-223 (DB)		5-lead TO-220 (AT)	
4-lead SOT-143 (RC)			
Plastic Thin Shrink Small Outline TSSOP			
		40-lead UQFN (MV) 5 x 5 x 0.5 mm	
		44-lead QFN (ML) 8 x 8 x 0.9 mm	
		64-lead QFN (MR) 9 x 9 x 0.9 mm	

Packages are shown approximate size.

Additional packages are available – contact your local Microchip sales office for information.

For detailed dimensions, view our Package Drawing and Dimensions Specification at: www.microchip.com/packaging

Product Packages

**Plastic Thin Quad Flatpack
TQFP**



44-lead TQFP (PT)
10 x 10 x 1 mm



80-lead TQFP (PF)
14 x 14 x 1 mm



64-lead TQFP (PT)
10 x 10 x 1 mm



100-lead TQFP (PT)
12 x 12 x 1 mm



64-lead TQFP (PF)
14 x 14 x 1 mm



100-lead TQFP (PF)
14 x 14 x 1 mm



80-lead TQFP (PT)
12 x 12 x 1 mm



144-lead TQFP (PH)
16 x 16 x 1 mm

**Plastic Quad Flatpack
QFP**



32-lead LQFP (LQ)
7 x 7 x 1.4 mm



44-lead MQFP (PQ)
10 x 10 x 2 mm



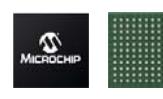
144-lead LQFP (PL)
20 x 20 x 1.4 mm



**Ball Grid Array
BGA**



100-ball BGA (BG)
10 x 10 x 1.1 mm



121-ball BGA (BG)
10 x 10 x 0.8 mm

**Plastic Dual In-Line
PDIP**



8-lead PDIP (P)



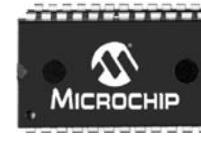
14-lead PDIP (P)



18-lead PDIP (P)



20-lead PDIP (P)



24-lead PDIP (P)



28-lead SPDIP (SP)



40-lead PDIP (P)

NOR Fl

8-lead WS
5 x .050

32-lead PL
.600

32-lead PL
.452

40-lead TS
10 x .050

48-lead WFB
4 x .060

48-lead TFB
6 x .080

48-lead TS
12 x .050

Packages are shown approximate size.

Additional packages are available – contact your local Microchip sales office for information.

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